

IN THE CLAIMS

Claim 1(original): Sensor unit for an apparatus for preventing the condensation of a gas, particularly water vapour, on a surface of an object,

- with a temperature measuring device (12) for measuring an object temperature,

- with a dew point determination device (14) for determining a dew point temperature of the gas in an atmosphere surrounding the object (20) and

- with a regulating and control device (16) operatively connected to the temperature measuring device (12) and the dew point determination device (14) and with which an adjusting device (18) for increasing a temperature difference between the object temperature and the dew point temperature can be controlled as a function of the data obtained by the temperature measuring device (12) and the dew point determination device (14) in such a way that a reduction of the object temperature to or below the dew point temperature is prevented,

characterized in that

- the dew point determination device (14) is constructed as a dew point sensor (50) for the direct measurement of the dew point and

- the temperature measuring device (12) is constructed as a temperature sensor operating in contactless manner.

Claim 2(original): Sensor unit according to claim 1, characterized in that the temperature sensor is constructed as an infrared sensor.

Claim 3(original): Sensor unit according to claim 2, characterized in that the temperature sensor is a thermopile sensor.

Claim 4 (currently amended): Sensor unit according to claim 2 ~~one of the claims 2 or 3~~, characterized in that the temperature sensor is provided with a spectral filter.

Claim 5 (currently amended): Sensor unit according to claim 1 ~~one of the claims 1 to 4~~, characterized in that the dew point sensor (50) is of the type in which the measuring principle is the change to a light reflection and/or light scattering, particularly an internal reflection, when the gas is condensed on a measurement surface (52).

Claim 6 (currently amended): Sensor unit according to claim 1 ~~one of the claims 1 to 5~~, characterized in that there is a further temperature measuring device for determining the temperature of the atmosphere (28) surrounding the object (20), particularly the temperature within a motor vehicle passenger compartment.

Claim 7 (currently amended): Sensor unit according to claim 1 ~~one of the claims 1 to 6~~ housed in a common housing (26).

Claim 8 (currently amended): Apparatus for preventing the condensation of a gas, particularly water vapour, on a surface of an object, having a sensor unit (10) according to claim 1 ~~one of the claims 1 to 7~~, and with an adjusting device (18) for increasing a temperature difference between the object temperature and dew point temperature.

Claim 9 (original): Apparatus according to claim 8, characterized in that the adjusting device is constructed as a heating device for the direct and/or indirect heating of the object.

Claim 10 (currently amended): Apparatus according to claim 8 ~~one of the claims 8 or 9~~, characterized in that the adjusting device is constructed as a drying device for reducing a gas content,

particularly a water vapour content, in the atmosphere surrounding the object.

Claim 11(currently amended): Apparatus according to claim 8 ~~one of the claims 8 to 10~~, characterized in that it is constructed as a means for preventing the misting of the windows of a motor vehicle.

Claim 12(original): Method for avoiding the condensation of a gas, particularly water vapour, on a surface of an object, with the method steps of:

- (a) measuring an object temperature,
 - (b) determining a dew point temperature of the gas in an atmosphere surrounding the object,
 - (c) raising the object temperature and/or reducing the dew point temperature as a function of the object temperature measured in step (a) and/or the dew point temperature determined in step (b) for preventing a lowering of the object temperature to or below the dew point temperature,
- characterized in that
- the dew point temperature of the gas is directly measured with a dew point sensor and
 - the object temperature is measured in contactless manner.

Claim 13(original): Method according to claim 12, characterized in that the temperature difference between the object temperature and dew point temperature is kept above a predetermined minimum temperature difference by a regulating and control device (16).